REMARKS

The Examiner is thanked for anticipating the above amendment of claims 17-20 into statutory method claims to traverse their rejection under 35 USC 101.

The rejections of independent claims 1 and 15-17 under 35 USC 102 for anticipation by the Abualsamid publication originally cited by the applicant are traversed for the reasons that become apparent from the above amendments of claim 1. These amendments are non-narrowing and, therefore, do not invoke any Festo-like limitations even though following a statutory rejection.

For the purpose of analyzing a situation represented by data collected in an OLAP cube or other data source it is crucial to have a presentation of relevant data. Actually, a user may have preferences as how to have the presentation to appear. Further, the user may prefer to analyze the situation by shifting his point of view on the situation in requesting further data and have them presented - according to his preferences. In the prior art this scenario is far from seamless and involves programming or drawn-out user interactions.

The claimed computer-implemented method is directed to enhancing the efficiency of requesting further data reports (a presentation) from a first data report. It is well known in the art to request a first data report and how to drill down into details thereof, but it remains undisclosed how to seamlessly provide an alternative presentation whereby a user easily can shift his point of view on a situation.

The claimed method improves for this by ensuring presentation of data with a preferred presentation format in far fewer user operations (mouse clicks) than prior art methods. This is achieved by storing associations (capable of identifying data) and relating them to preferred presentation properties (thereby also being capable of identifying a

9

presentation format). So providing further data reports (presentations) in far fewer user operations is a strong competitive factor on the software market - and especially in the expanding market for business intelligence software.

In claim 1, for example, a first step displays a first data report. This data report contains at least one graphical element - e.g. shaped as a circle sector of a pie chart. The graphical element is bound to a first data item - e.g. specifying that the graphical element is to represent a dimension value of 16% of the pie chart, which may also show that 16% of a measure 'sales' was realized in the dimension 'country' 'Germany'. This figure is retrieved from a database and is specified by metadata (i.e., data that describes data) that will serve as a specification of the figure. Thus, according to claim 1, the metadata comprises one or more of a dimension, a dimension value or a measure.

A further step is performed when a user takes an action - e.g. pointing and clicking at the graphical element - e.g. the circle sector described above. In response thereto, the metadata of the first data item is determined by a two-step procedure. Firstly, by identification of the measures and dimensions in the metadata - in the above example, measure= 'sales', dimension= 'country'='Germany'. Secondly, by identification of an association thereof, i.e. in this example, 'sales' is associated with 'country', or an addition thereto. In any event, an association is determined.

Stored associations then searched for one like the determined association. The stored associations are related to presentation properties. Thus, by searching, it is possible to find a stored association like the determined association - e.g. a stored association that involves the same measure (e.g. sales), but has a different dimension (e.g. 'yearly quarters').

This like stored association identifies a second dataset than the association determined directly from the data report. Further, since this like association also is related to presentation properties, e.g. specifying a bar-chart with a bar for each quarter and not a circle segment, a user can easily be provided with a presentation whereby the user can see the situation from a shifted point of view - according to his preferences.

Therefore, the claimed invention is different from the Abulsamid publication. Abulsamid discloses an overview of the programming (scripting) language PHP and a briefly described server hosted application for providing electronic surveys. The code of the application consists of three main pieces (3rd col., 1st page): A first piece that lets users create a survey from scratch and store it on the server; a second piece which is a client application that allows users to complete the survey; and a third piece which is an administrative tool that lets survey administrators check the results of completed surveys.

A person skilled in the art will know that PHP is a scripting language which can be embedded in HTML code and that HTML code is a hyper text mark-up language where data and presentation properties are contained in a document. Further, he will know that metadata (literally, data about data) can be embedded in HTML code (cf. e.g. http://www.ietf.org/rfc/rfc2731.txt). Thus, the skilled person will also know that a user can be provided with a presentation (or second data report) with data analysis results (cf. Abulsamid) and that the presentation may be requested from a first data report via a hyper link from the first data report to the presentation. It is also known that the reports may contain a collection of graphical elements (cf. e.g. Spiers) which are bound to data items which in turn may be specified by metadata.

Thus, Abulsamid discloses a computer-implemented method comprising the steps of: providing a storage memory with metadata and presentation properties; displaying the data report which contains a collection of graphical elements, where a graphical element is bound to a first data item, and where the first data item is specified by metadata; and in response to a user's action directed to said graphical element, determining the metadata of the first data item.

However, Abulsamid does not disclose that the step of determining the metadata comprises determining at least one association of a dimension and a measure; and in said storage memory, where associations are related to presentation properties, searching for a like association; and in displaying the second data report, applying the presentation properties, related to the like association, to make a presentation of the second data items which are specified by the determined at least one association.

Thus, Abulsamid does not disclose that the data report is presented with individual, but preferred presentation properties, as claimed.

The rejection for anticipation under 35 USC 102 should not be converted into one under 35 USC 103 for obviousness, either.

Such rejection permits combination with other references, like Spiers, but Spiers only discloses simple examples of creating images dynamically. It is disclosed that the images are created dynamically by means of a PHP compiler with support for a so-called GD library. An example of about 40 lines of code is used to provide a graph that shows a football club league position. The graph is provided via WAP as an image suitable for display on a mobile phone and created as a dynamically created image.

Abulsamid deals with PHP systems that give the ability to fully customize the way the data are presented to the user and to generate images on the fly (cf. Spiers) in order to display those data to users in a specific format.

Abulsamid and Spiers aim at pushing data back to users as a response to their requests; the data are pushed back to the user in a format determined by the programmer of the server hosted application. To this end Abulsamid and Spiers are based on HTML where data and presentation properties are embedded in the same document. Thus, presentation properties of a data set are determined by the programmer by means of server hosted HTML code.

Thus, the objective problem is how to provide a user controlled, but computer assisted technical tool for more efficiently providing preferred presentation properties when exploring a multidimensional dataset in a process, where consecutive data reports are requested from a database.

The solution to this problem is provided according to the present invention when the metadata comprises one or more of a dimension, a dimension value, and a measure; the step of determining the metadata comprises determining at least one association, of a dimension and a measure, by identification of measures and dimensions in the determined metadata and identification of associations thereof and/or addition of a dimension or measure to an identified measure or dimension; in said storage memory, where associations are related to presentation properties, searching for a like association; and in displaying the presentation, applying the presentation properties, related to the like association, to make a presentation of the second data items which are specified by the determined at least one association.

13

Thus, the presentation properties are stored and arranged with relations between associations (metadata) and the presentation properties. Since the association comprises sufficient information for retrieving data (data), although knowledge of appropriate query syntax information is required, the associations are an efficient entry key for storing and retrieving presentation properties in a query invariant way and in a data (data) invariant way. On the one hand, this query and data invariant way makes it possible to obtain a good degree of reuse of previously defined presentation formats across different (instances of) data reports. On the other hand, since an association is determined and this association provides identification of a data set, the options for continuing data exploration and analysis are widened. Consequently, the efficiency of requesting further data reports (presentations) and data thereto is enhanced while the data reports are presented with individual, but most likely preferred presentation properties. Especially, the association provides efficient retrieval of presentation properties when a request for data is made again.

The efficiency of requesting a presentation is improved in that the method ensures presentation of the presentation (or further data report) with a preferred presentation format in far fewer user operations (mouse clicks) than prior art methods. The far fewer user operations are achieved since the likelihood of being able to retrieve applicable presentation properties is greatly increased by storing associations (capable of identifying data) and relating them to preferred presentation properties (thereby also being capable of identifying a presentation format) and when a user clicks on a graphical element of the data report, an association is (always) determined. Taking the determined association and finding a like association related to stored presentation properties greatly reduce the number of user actions needed to instruct the computer for the purpose of assisting an analysis carried out by the user.

The skilled person reading Abulsamid knows about PHP systems which give the ability to fully customize the way the data are presented to the user. In programming a PHP system the skilled person is a aware of techniques to handle user requests and provide customized responses. Abulsamid discloses a programming tool and an exemplary application. Thus, any way of providing the responses to the users is open to the programmer. However, there is no teaching or hinting in Abulsamid or Spiers which he may come across that points at customizing the response to different preferences expressed by a user across a sequence of request-response sessions.

Should the person skilled in the art consider to give a user different format options (for a data report) this solution will suffer from the drawback that it does not enable recalling of individual presentation properties in an efficient manner. However, neither Abulsamid nor Spiers gives any kind of motivation for going in such a direction.
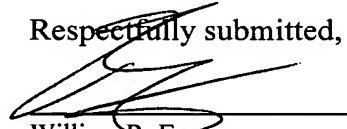
Should the person skilled in the art consider providing the user with a query interface and an interface for presenting the result of the query by means of a data report and should the user be inspired to alter the data report in the search for an alternative view on the situation, which it is desired to enlighten by means of a data report, the user will go back to the query interface and formulate a new query, the result of which is displayed by a further report. However, since typically presentation property settings determined automatically may hide details which it is desired to enhance, the user will tune his presentation until a desired result is obtained. However, the prior art does not mention how to store and recall such tuned presentation properties and does not in anyway provide seemless fast jumping from one data report to a next one.

Since the person reading Abulsamid is not in any way made aware of the objective problem (s)he will not arrive at the specific technical solution comprising presentation properties arranged with relations between associations (metadata) and the presentation properties. However, it is admitted that Abulsamid and Spiers may disclose generic programming techniques that could be used for implementing the claimed invention in a web-application.

The solution comprising presentation properties arranged with relations between associations (metadata) and the presentation properties is illustrated by means of table 1 on pages 16 and 17.

Reconsideration and allowance are, therefore, requested.

Respectfully submitted,

William R. Evans
c/o Ladas & Parry LLP
26 West 61st Street
New York, New York 10023
Reg. No. 25858
Tel. No. (212) 708-1930